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CENTRAL MAIN STACKS

Milwaukee Public Library

Reports on the proposed Library and museum building for the city of Milwaukee 1890

GENERAL LIBRARY
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University of Michigan
Presented by
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From Public Library of
CITY OF MILWAUKEE

Library and Museum Building

REPORT, DECEMBER 1890.

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CITY OF MILWAUKEE

Library and Museum Building

REPORT, DECEMBER 1890.

REPORTS

ON THE PROPOSED

Library and Museum Building

FOR THE CITY OF MILWAUKEE

DECEMBER, 1890

BY

K. A. LINDERFELT

Librarian of the Public Library

AND

ADOLPH MEINECKE

Trustee of the Public Museum

MILWAUKEE

Trustees of the Public Library and the Public Museum

1890

JOINT REPORT.

MILWAUKEE, DEC. 5, 1890.

To the Joint Committee on the Library and Museum Building of the City of Milwaukee.

GENTLEMEN:—

In conformity with instructions received from the boards of trustees of the public library and the public museum, we, the undersigned, delegated by you to collect information and suggestions by visiting the principal buildings for library and museum purposes in this country, beg to report that we spent the greater part of the month of November in carrying out your orders. After carefully selecting the places in which there have been built in recent years either library or museum buildings, or both, that in our opinion would be likely to furnish us with the desired information, we examined such structures at Dayton, Springfield, Cleveland, and Toledo, Ohio; Allegheny, Pittsburgh, Philadelphia, and Wilkes-Barre, Penn.; Washington, D. C.; Baltimore, Md.; New York, Brooklyn, Albany, and Buffalo, N. Y.; Newark, N. J.; New Haven, Conn.; Boston, Worcester, Cambridge, Woburn, Quincy, Newton, and Watertown, Mass.; Detroit, Ann Arbor, Lansing, and Muskegon, Mich. The result of our observations in each place we submit herewith in a separate report by each of us, relating to the kind of buildings within the domain of each.

After carefully considering the whole subject of accommodations for our own library and museum, we have come to the conclusion that the most satisfactory solution of the problem

would be the erection of two practically independent structures, connected only toward the street, so that they may present the appearance of a uniform whole. We base this opinion on the fact that such an arrangement would provide in the best possible way for the convenience of the visitors to both institutions, while at the same time the requirements for the internal arrangement of the rooms in each case are so essentially different, as to preclude any possibility of uniformity in details, except in architectural appearance. By this arrangement the danger from fire and and other accidents would also be greatly lessened, and, if the heating and lighting apparatus were put in a separate structure, outside the main buildings, with connections to both institutions, it would be practically impossible to cause a conflagration, in any part of the structures, that would seriously threaten the whole complex of buildings.

In view of the experience of other cities in this country, which in a majority of cases have erected similar buildings without sufficient provision for future increase, it seems hardly necessary to recommend that our own buildings should be constructed in such a manner as to furnish every facility for future extensions, as occasion requires, without interfering with the plan or architectural features of the original building.

With these few general remarks we beg to submit separate reports on the results of our journey, and to add, as a supplement, a series of engravings, containing suggestions for the arrangements of the two buildings in accordance with the principles set forth in these reports.

Respectfully submitted,

ALDOLPH MEINECKE,

For the Board of Trustees of the Public Museum.

K. A. LINDERFELT,

For the Board of Trustees of the Public Library.

REPORT ON THE LIBRARY.

For detailed descriptions of the library buildings in the various cities visited I refer to my notes submitted as a part of this report, and printed as an appendix, and proceed to the statement of the rooms, with their sizes and characteristics, which my experience, gained from familiarity with the working of our own library and from suggestions received in visiting other institutions, leads me to believe should be provided for in the

PUBLIC LIBRARY OF MILWAUKEE.

Assuming that our recommendation for separate buildings shall meet with favor, the building to be occupied by the public library should front on Grand Avenue and be four stories in height, of which the first, 12 or 13 feet in the clear, can be practically a basement, but wholly above ground, so that the main floor, 18 feet high, would really be the second story, and the third and fourth need not exceed 13 feet each in height. The building must contain approximately the following rooms and conveniences:

1. A book room, or rooms, capable of containing at least 150,000 volumes at the start, and admitting of further extension either sideways or upwards, as it becomes necessary to provide room for more volumes. This room should be made in the form of a wing toward the north, surrounded by the other buildings, so that no consideration for architectural embellishment need interfere with the provisions for ample light. In estimating the capacity of the book room, the calculation should be made on the basis of 8 volumes to the running foot of shelf measure, which

experience has taught is the largest average number that can be conviently accommodated in that space. Cases or "stacks" for books should be wholly of iron, 18 inches wide, and placed not less than three feet apart. Unless there are objections found, which I do not at present foresee, my preference is for the book-stack system now being constructed for the Library of Congress in Washington by its engineer, Mr. Bernard R. Green. It is not desirable to have more than three stories of stack room at present each one of which is to be 9 feet in height clear, and in reality a separate story, not a gallery. This height will accommodate seven shelves in each book-case (or stage in a book-stack), the remaining space at the top being left open for the circulation of light and air. The shelves are to be in equal sections of 3 feet in length, not more than four of these sections to be placed side by side in a case, without a three foot aisle on either side. A stack thus arranged will accommodate about 25,000 volumes in 1000 square feet of floor space, including provision for the necessary aisles.

2. A public delivery room for the circulating department of the library, not less than 1500 square feet in area, with its delivery desk placed in the most convenient proximity to the book-room or rooms. This room must be easily accessible to the public, and may be lighted from above by a skylight.

3. A cataloging room, or rooms, which must be well lighted, have an area of about 1200 square feet, and be contiguous to the delivery room for at least 30 feet, so as to accommodate a card catalog, so constructed as to be used from either side.

4. A newspaper reading room on the ground floor, about 1500 square feet, well lighted, and with separate entrance from the main hall or else a special entrance way.

5. A magazine reading room, about 2000 square feet, with facilities for shelving the collection of bound magazines, belonging to the library.

6. A general reference room for cyclopedias, dictionaries, etc., to the extent of 3000 volumes, with an area of about 3000 square feet. This room must be particularly well lighted and so placed in relation to the book stacks, delivery room and card catalogs, that the convenience of students and the labor of attendants in bringing books to this room will be most carefully consulted. Closely connected with this room there should be several small rooms for special students, provided with doors, so that they can be used and locked independently of each other.

7. A reading room for children, of about 1000 square feet, adjoining, or in close proximity to, a delivery room for their special benefit, so placed as to be near the general delivery desk and communicating with a book stack in continuation of the main book stack system.

8. Librarian's office, with a stenographer's room adjoining; the former to be placed as centrally as possible as regards the other rooms of the library, have a public entrance from the hall, be provided with fire-proof vaults, and, if practicable, be connected with the cataloging room by means of another room with considerable wall space, for holding the library "tools", such as bibliographies, catalogs, etc.

9. A commodious room for the meetings of the board of trustees, with at least one committee room adjoining, unless so placed that the librarian's room may be conveniently used for committees during the meetings of the board.

10. A conversation room, with open fire-place and other home-like arrangements, if such can be provided without detriment to other more important demands.

11. Special rooms, as coveniently and generously arranged as circumstances will permit, for the following purposes:

a. Patent records of various countries, some of which are very large and bulky, with conveniences for tables and other requirements for copying plans and drawings.

b. Art collections, such as copies of paintings and engravings, with suitable tables for the use of the large and heavy volumes and portfolios, in which they frequently occur, as well as conveniences for copying such works of art.

c. Publications by Milwaukee authors, or relating to the city in any way, with ample wall space for the proper hanging of illustrations of scenery and portraits of citizens prominently connected with its history.

d. A pedagogical library, in which the collection already made by the city in this direction may be conveniently kept for the use of teachers, and extended so as to comprise the whole range of educational literature.

e. A room for the storage of bound volumes of newspapers.

12. Rooms on the top floor, lighted only from above, and removed so far from the main working rooms of the library as not to disturb the readers, one for the exhibition of separate paintings, engravings and other art objects under the best possible conditions, and the other for the storage and handling of a musical library, where instruments may be provided, if thought best, for the use of musicians and music teachers in becoming acquainted with the contents of this part of the library.

13. Lecture room, or rooms so arranged that they can be thrown together into one large hall, with seating accommodations for at least 1000 persons, and provided with dark closet, lantern screens, and other paraphernalia for scientific instruction.

14. A work room or rooms on the ground floor, to be used for the preparation of books for circulation, their distribution for the delivery stations, and also as unpacking rooms. For these purposes they must have a separate entrance towards the street and be placed immediately under the cataloging rooms, so as to admit of the easy transfer of the books on the way to their destination.

15. A room or rooms, of suitable size, for the use of a bindery, which undoubtedly must be established sooner or later as a part of the library.

16. Closets, dressing rooms and cloak rooms for the public and for the library attendants, provided separately for men and women in each case, as liberally and conveniently as possible. There should be a lavatory placed in close proximity to the delivery desk, one in or near the librarian's room, and another near the children's reading room, for their use.

17. A general entrance, with a proper vestibule, containing a stairway and at least one large elevator, communicating with all the floors of the building.

18. Private stairways for library attendants to store and packing rooms on the ground floor, and to the several stages of the book room.

19. Elevators, or book-lifts, in the book room, as well as running from the work and unpacking rooms to the cataloging room above.

20. In addition to these, some rooms should be provided, that may be taken possession of and adapted for uses not foreseen in the original plan, if it should be found necessary.

GENERAL REQUIREMENTS.

It should be especially required that every detail of the plans for ventilating and warming the building, for the arrangement and construction of drains, and for all, in fact, that pertains to its sanitary condition, as well as for the natural lighting of its rooms, shall be such as is most certainly approved by science and experience, and will bear the criticism of experts.

The building should be of a pure style of architecture, befitting its uses, and impressive to the eye by harmony of lines

and beauty of proportions, rather than by showy ornamentation or eccentric features.

It should be of a fire-proof character, in the fullest sense of the term, and no material should be admitted in its construction except iron and stone, or cement. All floors should be so constructed as not to permit noise or other sounds to penetrate from one story to the other.

Judging from the experience of experts in the construction of similar large buildings, it seems to be desirable that the building material should be either granite, or good brick with stone or terra-cotta trimmings; but in either case there should be stone foundations and a good dry cellar beneath the whole structure.

Wherever there are outside courts for lighting the interior of the buildings, the walls on either side should be lined with enameled brick of a light color, preferably a slight cream tint, in order to provide a good reflecting surface, that cannot become dimmed or made ineffective by moisture.

Respectfully submitted,

K. A. LINDERFELT,

Librarian.

REPORT ON THE MUSEUM.

MILWAUKEE, DEC. 16th, 1890.

To the Board of Trustees of the Public Museum of the City of Milwaukee.

GENTLEMEN:—

Having been elected delegate for the museum board to gather information and suggestions by visiting the leading museums in the country, I beg leave to report that in company with Mr. Linderfelt, delegate of the library board, I spent the greater part of November to carry out your orders.

The result of my observations I take the pleasure to place before you in the following report:

It was evening when Mr. K. A. Linderfelt and myself arrived in Washington.

Our first inspection trip on the next morning, November 6th, was to the

NATIONAL MUSEUM,

of which Professor G. Brown Goode is the director. We did not find him in, but his secretary, Mr. Earle, who received us very kindly. Mr. Earle, born in Waukegan and well acquainted in Milwaukee and other parts of Wisconsin, seemed to take great pleasure in showing us the various collections and buildings, and finally introduced us to Mr. Watkins, the keeper of property.

This gentleman informed us of the following facts: The National Museum building is entirely erected on a unit measure of 13 inches, which is the width of 1½ brick including the mortar.

All arches measure 8 feet and 8 inches, and the pillars between 4 feet 4 inches. The entire floor is made of stone pavement, each flagstone being just one foot square.

All frames, exhibition cases, boxes and drawers are made on a scale of 22 by 28 inches, which will fill an opening of 24 by 30 inches, so that a series of them will fill any opening or occupy the full width of a pillar in any part of the building. Some of these frames, which contain drawings and autographs, have hinges and are hung on pillars, so as to swing to the right and left. For larger articles some of the cases are made deeper, but the same uniformity in the size of the cases is observed throughout. Mr. Watkins has all his cases and drawers numbered and photographed. Having examined his large assortment, I selected the following numbers which I think will be desirable for the new museum: Nos. 1, 3, 4, 12, 13, 14, 16, 22, 23, 24, 25.

Professor G. Brown Goode, on application of our president, will supply us with the drawings of the above named furniture. It is an improvement of the system of the Kensington Museum in London. I found to my surprise that Mr. Watkins, after many trials and much labor, has succeeded in constructing a perfect insect-proof storage case, which consists of a wood-framed box, lined with corrugated steel tin, the corrugations of which are so sharp that they will act as a support for a drawer, 1 inch deep and 24 by 36 inches in size. The best part of it is the cover or door; when open, it slides by lifting it into a square hole on top of the case. In closing, two hinges will allow the wood cover to fall down in front of the case and a continuous strip of ¼ inch thick rubber hose, fastened on the open frame of the case, will press upon the wood and keep it air-tight, by shutting the door with a bolt near the bottom. The drawers consist of a mere frame of hard wood, fingered together with glue, the bottom of wich is made of two thicknesses of strong manilla paper,

glued on each side to a cotton cloth, which is nailed on the frames and the whole has two coats of good shellac. These drawers are very light, but can stand the weight of more than 100 lbs. The National Museum, as compared with other museums, occupies the most extensive space of ground and I think that the buildings cover nearly two acres. There are no stairs for the public, even the offices are situated on the first floor, and so is the lecture room.

THE SMITHSONIAN INSTITUTION.

Here I had the pleasure of becoming acquainted with Professor Robert Ridgway and Dr. Steinegger; both these gentlemen promised to render us any assistance in carrying out the plans for our new museum. The building, originally not intended for public exhibitions, was destined for keeping material for studies and lectures. The interior is built like a church, with most clumsy columns, shutting out the light and making dark corners.

THE AGRICULTURAL DEPARTMENT.

The next day we called at the Agricultural Department, but failed to find Mr. Rusk, who had not then returned from Wisconsin. We were there introduced to Professor Holtzinger, who kindly showed us through all the departments. Here I found that our method of keeping plants is fully as good as I could see in the Agricultural Department, and was surprised to see this department work into the hands of the National Museum. Dr. Merriam showed us thousands of species of small mammals from California and the Rocky Mountains, such as gophers, mice, rats, squirrels, etc. One of each species was represented by the skeleton, while the skins are carefully assorted and stored away in the moth-proof drawers, described above.

In the afternoon I had a long conversation with Professor Goode, who promised to make up for us a collection of minerals for lecture purposes as soon as we shall have the pleasure of mov-

ing into the new museum, though we could get them now if we care to have them. Professor Goode would get Mr. Watkins to have a moth-proof storage case made for us, in case the trustees should like to order one. I would recommend to order half of such a corrugated iron moth-proof storage case, with two compartments fitted with drawers.

In the National Museum a group of Indians in their national costumes forms one of the greatest attractions there, and I would recommend that proper steps be taken to secure Indian garments and implements in the nearest future for our own museum. It would be of the greatest importance to save such relics of the prior possessors of the land we now call our home. I refer to the Menominees and Winnebagos. We can get feet, hands and heads cast in Washington. I would recommend to write at once to Thomas J. Morgan, Commissioner of Indian Affairs in Washington, D. C., and ask him to devise some ways and means to get Indian garments and relics.

MEDICAL DEPARTMENT OF THE ARMY.

The medical department is a large building consisting of two wings, and situated next to the National Museum. Here I made the acquaintance of Dr. Fletcher, who introduced me to Mr. F. L. Apel, who was kind enough to show me all the different departments. The main building contains the offices and laboratories, while the left wing is taken up by the medical library. The right wing contains the

ARMY MEDICAL MUSEUM.

I saw at once that the style of this building would just answer the purpose for the erection of a museum building of this city. The building has been erected according to the plans of architect Paul Schulze, 25 Corcoran Building, Washington. The next day I had the the pleasure to meet Mr. Schulze, and when he had

found out what the object of my visit was, he informed me that the wing which contains the medical museum was erected at a cost of $65,000, and that the building was constructed out of brick and iron only, and that it is fire-proof throughout. Except the office, the floor is made of stone and asphalt through the entire museum. I present two photographs of the building, which have been handed to me by Mr. Apel. Mr. Paul Schulze, the architect, promised to send us the plan and elevation of the building on request.

The next museum we visited was the

ACADEMY OE NATURAL SCIENCES IN PHILADELPHIA.

The collection was started in 1812 by small subscriptions to benefit the high school of Philadelphia, just the same as our institution was begun for the benefit of the German and English Academy of this city. For many years the Academy of Natural Sciences in Philadelphia was thought the best founded institution of this country.

For lack of room, the museum in 1876 was placed into new quarters, but at the present time these are so crowded with specimens, that they have just laid the foundation for a large building as an annex to the present institution. Mr. Linderfelt and myself were kindly received and shown around by Professor Angelo Heilprin, the present curator. The museum is built in a style similar to the medical museum in Washington. One long church-like hall, with two galleries, and all built fire-proof. The light enters the room from the ceiling, as well as from the wide gothic windows from all sides. Permit me to present 3 stereoscopic views of the building, also an address of W. S. W. Ruschenberger, with illustrations. The large mammals, the skeletons and largest birds are placed in the center of the lower floor, while the first gallery contains about 30,000 different species of birds, some

archeological specimens and minerals. The latter are arranged according to Dana's Mineralogy. The various species of shells are exceedingly well represented and arranged according to Professor Tryon's Manual of Conchology. When, in the display collection, a species is lacking, a fine colored drawing is furnished to take its place, until the natural specimen can be procured. Of Professor Tryon's "Manual of Conchology" 15 vols. have appeared, and I would recommend the purchase of same, as soon as we have moved into new quarters and get space enough to display our grand collection of shells.

The museum of the Academy of Natural Sciences in Philadelphia may feel proud of possessing some specimens which cannot be found in any other museum. For instance, the extinct lizzard found in Haddonfield, New Jersey, the Hydrosaurus faulkii, 1858. The animal is like our Megatherium, about 20 feet high, and all bones with the exception of a few are in perfect order. Another rare specimen is the extinct auk, Alca impennis, Linn. with a real egg of this bird. A flexible sand-stone slab from Brazil, and a meteorite weighing 257 pounds are also specimens of rarity. The floor under the museum is occupied by the library and various offices of the curators in charge, and it also contains a splendid hall for lectures and meetings of their board of trustees. On the walls there are to be seen the oil pictures of the old trustees and scientific gentlemen, who lived and worked in the first part of the present century. The publications of the Academy consist of a Journal, begun in 1817, and an annual report of proceedings, which have been issued regularly since 1817.

The collection of shells is said to be the largest in the world, surpassing even the famous collection of the British Museum. It contains, in about 56,000 trays, 170,000 species.

The herbarium contains 35,000 species of flowering plants. The collection of human crania numbers about 1700 species. I

found an endless variety of osteological specimens, preparations of reptiles and fishes, sponges and corals.

Professor Heilprin opened a room for me in which were most abundantly exhibited beautiful and valuable specimens of gold and silver ore. I saw pieces of natural gold as large as my hand, precious stones, and splendid clustering specimens of vanadinite and wulferite. After we had inspected the library, which contains 35,000 vols., we parted with thanks to Mr. Heilprin and the other gentlemen, resting assured that they would render us any assistance we might desire for the construction of a new building. We now visited the

UNIVERSITY OF PENNSYLVANIA.

The museum is situated on the second floor of the library building, but not yet arranged. The collections were opened to the public October 1st. The museum will occupy several rooms, with light from above and all sides. The university together with all the old and new buildings covers an area of about 20 acres. Here I could not see anything of value for our museum.

From here we started for New York and inspected

THE AMERICAN MUSEUM OF NATURAL HISTORY.

The plans of this institution have been laid out on such a scale that the museum, after completion, will be one of the largest institutions, not only in America, but perhaps the whole world. The site for this museum has been given by the city of New York and embraces an area of 20 acres. As you will see from the plans I present herewith, there is only one building erected at present, but another two-winged structure is just in process of erection, as you will see from the colored picture accompanying. I present an annual report, containing 3 pictures, to show the magnificence of the halls in this building. The dimensions of the whole are so extensive that I could see nothing in the build-

ing or rooms that we could adopt for our small museum. Professor Allen and Mr. Richardson, the taxidermist, were both very kind to us in spending several hours of their time, in order to show us all the particulars of the interior of the museum, and also of the annex, just in process of erection. Some of the new exhibition halls are very large, and there are spans of 60 by 80 feet without any pillars.

The lecture room is built on a new plan, oblong, like an amphitheatre, and has a capacity of 2007 seats. In the rear of the platform there is a white sheet of 30 to 40 feet, for the use of a stereopticon.

This institution is supplied with many groups, representing scenes of the natural life of animals. Professor Allen showed me most beautiful groups of robins, swallows, Baltimore orioles, and others, which were sitting on their nest amidst leaves and trees.

Professor Allen was informed of our muskrat group and spoke very favorably of our efforts. The greatest present attraction in the museum is the Jessup Collection of American lumber, which probably is the largest collection of this kind on the face of the globe, and which has cost the museum more than $100,000. In this collection there is represented one of each species of forest trees growing in the U. S. All the pieces of wood on exhibition are 5 feet high, one foot from top they are cut out in halves so as to show the grain of the wood; one half is polished and the other half has been left in the natural state. Professor Allen offered us his assistance for the erection of a new building, whenever we might call on him.

The next institution we visited was the

PEABODY MUSEUM IN NEW HAVEN.

This museum is connected with the Yale university, only one wing being completed, but the picture I present herewith, shows

the building as it will be after completion. Here we met with the same furniture as we have in our museum, and of which Mr. Doerflinger brought the plans along at the time the present museum was turned over to the city, in 1882. All the cases are made of cherry, size and shape all the same as in our museum. In the absence of the director of the institution, Professor O. C. Marsh, we were introduced to Dr. Penfield. Having examined the building, we found that it did but poorly answer the purpose for which it has been erected. The hall is perfectly dark and a spiral stairway is running round the walls to the four stories above. The rooms are small and of very dim light. Here we met with a new way of displaying shells; they are fastened on pins which rest on square blocks. The collection of corals was the most beautiful we have seen.

In the evening we reached Boston and early in the morning we started for Cambridge, where we had the pleasure of meeting Professor Alexander Agassiz in his office at the

MUSEUM OF COMPARATIVE ZOOLOGY.

Professor Agassiz kindly gave us as a guide, Mr. Sam. Garman, assistant in Herpetology and Ichthyology. Mr. Garman is a specialist on reptiles and fishes and has written several vols. on these subjects. In the interest of the Museum of Comparative Zoology he has traveled not only through our west, but also through South America, the Andes, etc. He accompanied us through all the building and took us through nearly fifty rooms, our visit lasting from 9 o'clock in the morning till late in the afternoon. Here I must say that of the many museums we have visited on our inspection trip, the Museum of Comparative Zoology takes the lead of all. It is a thoroughly systematic arrangement, and is exceedingly well filled with specimens of all kinds. The collections are divided into different groups for various pur-

poses. There is one series of rooms, of which each is given to a certain continent, as for instance, Europe, Africa, etc. Each room contains a complete exhibit of the fauna of such continent, from the lowest to the highest order. Another series of rooms contains a synoptical arrangement of type specimens from the animal kingdom, so as to give a birdseye-view of all the living animals of the globe. A third series of rooms contains a selection of dissected parts of animals, for comparative studies of their structure. In addition to this, there are numerous storerooms, filled with specimens of all kinds, both fossil and living. All these rooms are accessible to the students and, with the exception of the storerooms and lecture room, to the general public. The students find tables and chairs placed everywhere for their convenience. The Entomological Department is in charge of Dr. Herman A. Hagen, who has prepared a number of interesting exhibits, moths, butterflies and larvæ. The first part of this large establishment was opened in 1862. The present building occupies about three-fourths of the original plan, of which I present a drawing.

At present the Peabody Museum of Archeology and Ethnology occupies a building by itself, which later will be connected with the main building. Here we found the largest display of North and South American antiquities. There are some large specimens on exhibition, such as the "Giant Squid", which have been made by Professor Emerton. After examining the museum we were fully convinced that there is not in this country a museum, that can be compared with the Cambridge Museum, in regard to completeness and scientific arrangement. The whole collection may be studied without the aid of any printed guide, because every specimen is clearly labeled and the entire collection arranged in the best systematic order.

MUSEUM OF THE BOSTON ACADEMY OF NATURAL SCIENCES.

The museum is a large square building with the usual unsatisfactory arrangements, clumsy and heavy galleries, small rooms and insufficient light.

BUFFALO SOCIETY OF NATURAL HISTORY.

The Buffalo Society of Natural History is on the bottom floor of a building, in which the library takes up the second floor and the Art Society and the Historical Society the third floor. The curator of the Natural History Society informed Mr. Linderfelt that they expect a separate building for this department some time in the future. Besides the ordinary exhibition rooms they have a large lecture room; the rooms are very low, but fire-proof. The cases and fixtures are all old fashioned, and of the simplest material. Geology and Paleontology are well represented, but there is not much of other departments. The rooms are but small and the light insufficient. It is a private society, but its rooms are open to the public.

CONCLUSIONS.

Having carefully considered the subject of accommodation for our museum, I arrived at the conclusion that two independent buildings should be erected, but the front so constructed as to give both buildings the appearance of one, as you will see from the plans I here present. The building should be absolutely fire-proof and the heating apparatus for both the buildings should be placed in a separate building at quite a distance from the main building.

On my inspection tour I found that the majority of buildings have been erected without sufficient provision for future increase. It will therefore be hardly necessary for me to recommend that our museum should be so erected as to give us ample space for

future additions, without interfering with the plans of the whole building.

I recommend the erection of a building according to the plans which I herewith present:

SIZE OF THE MUSEUM BUILDING.

Outside measurement about 9000 square feet.

The building to contain

1. Basement.

So arranged as to form a full story fronting to the court with large windows. The basement shall contain the following rooms:

A. Store rooms.
B. Working room for the taxidermist, etc.
C. Room for a large aquarium.
D. Laboratory, etc.
E. Men's toilet room.

2. Ground Floor.

The ground floor shall contain the following rooms:

A. A lecture room with a seating capacity for 300 persons, constructed in the form of an amphitheater.
B. Entrance hall, 20 feet wide, with stairs 10 feet wide, leading to the second story in two arms. Stairway to basement and men's toilet room.
C. Wardrobe and ladies' toilet rooms, both with entrance from the main entrance hall.
D. Custodian's office, 350 square feet, with fire-place.
E. Library, 300 square feet, and communicating both with the custodian's office and the directors' room.
F. Directors' room, 650 square feet, with special fire-place.

G. Storeroom for specimens in course of preparation, 650 square feet, with stairway leading to the working room in the basement.

H. Janitor's room, about 300 square feet, so arranged that a part of the same may be used as a bed room, if necessary.

I. Corridor, connecting the main entrance hall with the vestibule and the entrance adjoining the building at the south end through which connection is made with the library.

K. An elevator from the basement to the top gallery of the museum, capable of receiving the largest specimens known.

3. Second, third and fourth floor.

The second, third and fourth floor shall be devoted to one large hall for the museum, and shall be provided with two series of galleries around the entire four sides of the building, leaving an open center, lighted by a sky light, 25 by 115 feet. The area of the main floor would be 8000 square feet and the two galleries each 5000 feet, making 18,000 square feet in all for the exhibition of specimens.

The main floor and the galleries of the museum will be connected by three convenient flights of stairs. As already said before, the building should be erected either out of granite or hard brick, with appropriate trimmings of stone and terra cotta. The floors throughout the museum, including the galleries and corridor, should be of tiling set in asphalt.

In conclusion I would also recommend that all improvements, in regard to storage cases and other furniture, as I have seen them in the National Museum in Washington, be accepted.

Respectfully submitted,

ADOLPH MEINECKE.

APPENDIX I.

Notes on Library Buildings, Visited November 3–26, 1890.

DAYTON, OHIO, PUBLIC LIBRARY,

completed three years ago, occupies the center of a park, about 400 feet each way. The building, made by a local architect, is of grey sandstone and brown stone trimmings, with tower and a heavy balcony with stone pillars over the main entrance, apparently put there for ornament only. The lower story is occupied by a delivery room, general reading room, reading room for ladies, patent room, above all of which is a second story not yet finished off, except plastering, the whole consisting of one large room. Off from the delivery room, merely separated from it by a counter, is a book storage room in one story, with cases about 8 feet high, placed along the walls and on the floor. The light is obtained from windows placed *above* the cases on all three sides, the free space over the cases being about ten feet in hight. Off from this room is the librarian's office, with entrance also from the vestibule.

Advantages: Ample lobby with entrance from two sides, good ventilation, books all on one floor, low cases.

Faults: No provision made for extension, except by finishing the upper floor as a reference room, and dividing the library in two parts. The present book room is supposed to accommodate 50,000 volumes, but the cases are less than 2½ feet apart. Insufficient light between the cases, in consequence. No reference room, except, as stated, a possibilty of providing one in the future. Insufficient reading room and no provision for work room.

Cost about or nearly $100,000, erected by the city, and governed by a committee of the school board.

Is entirely fire-proof, except wooden finishings and cases.

SPRINGFIELD, OHIO, PUBLIC LIBRARY.

(Name to be changed to the Warder Library.)

The building was paid for by a Mr. Warder, as a memorial of his parents, and presented to the city. Opened in June, 1890. Has a fine situation on the main street diagonally across from the new post office, and is built in the shape of an L, with the projection toward the street. Of grey sandstone and brown stone trimmings, with an imposing portico for entrance, and a tower in the inner angle. The entrance leads into a magnificent reading room, about 35x60 feet, well lighted and finely furnished, almost the entire length of one short side being occupied by a wide fireplace. The book room branches off from this room, separated from it by a counter. This book room has shelves on the floor but not on the sides, and is well lighted by high windows not more than four feet from the floor, on both sides of the room. The cases are about three feet apart, but too high. Readers have access to the shelves, for the present at least.

On the second floor above the book room is a low room, which will ultimately be used as a reference room; but the reading room extends to the roof, which is supported inside by heavy cross beams.

Advantages: Good reading room, fine basement, with ample light, which is also the case in the book room. Good heating.

Faults: No provision for extension except by putting gallery in the book room, for which purpose the windows are divided into two parts. No reference room, except as stated above. At present the further end of the book room is used for this purpose. When filled to its utmost capacity, this room is supposed to accommodate 40,000 volumes.—Very poor accommodation for the librarian, and no work rooms or board meeting rooms, nor even a closet for a coat. Not the slightest provision for a cataloging room or place. It may be stated that the building is *wholly* the work of the architects.

A radical defect in both this and the Dayton library is that there is no direct light over the delivery desks.

Cost $100,000, wholly borne by Mr. Warder; lighted throughout by incandescent electric light. Thoroughly fire proof, except for wooden furnishings, but the shelves are of iron.

Governed by an independent board of four directors.

COLUMBUS, OHIO,

has a public library, poorly housed in the city hall, and the Ohio state library, not much better provided for in the state capitol.

CARNEGIE LIBRARY, ALLEGHENY, PA.

This building was built and given to the city by Mr. Carnegie, the great iron manufacturer of Pittsburgh. It includes also a magnificent music hall, with seats for about 1800 people, and provided with a fine organ; also various lecture rooms, gymnasium, etc. The building is of grey granite with a very high tower, for which there seems to be no use whatever, except as a place for a clock. The whole half of the building is given up to the library with the exception of a room on the second floor at

the further end, which is intended for an art gallery, but may be fitted up as a newspaper reading room.

The library consists of a large reading room, offices, "bibliographical room" and two stack rooms, all connected by a central room, of large proportions and lighted from above. The divisions between the rooms consist of massive pillars, connected by a partition when necessary, and the central vestibule is adorned with a fine fire place. The floors are mostly all of mosaic work.

A curiosity in the arrangement is that the stack-rooms in two stories, closely packed like those of Harvard, with small windows, are on the side toward the main street, while the so-called "bibliographical room" might have been put there to greater advantage. The latter room is of very little use in its present position, but, if it had a separate entrance toward the street, could be utilized as a delivery room. The present provision for delivering books is absurdly inadequate. The stacks are in two stories, with a perforated iron floor, and tolerably well lighted.

The entire building cost $250,000 and was erected by Smithmeyer & Pelz, architects in Washington, who made the original plans for the congressional library building.

Advantages: Good basement and heating, ventilation by fan system. Substantial and handsome finish, good lecture and exhibition halls in connection with the library.

Faults besides those already mentioned: Windows about 10 feet from the floor do not give sufficient light, particularly in the back part of the reading room. Waste of room in the central part unless that be used as a reading room, or possibly for reference, in case the delivery is transferred to the back room. Librarian is too far away from the place where the work of the library must be done. The upper stack room is too hot, and the whole collection is placed too far from the delivery desk.

Plans are now being made for a similar building in Pitts-

burgh, to cost about a million dollars, also the gift of Mr. Carnegie.

CONGRESSIONAL LIBRARY, WASHINGTON.

The building is progressing under the direction of Mr. B. R. Green, appointed by the chief of engineers of the army, and the sub-cellar, cellar, basement and first story are nearly completed. The material is Concord granite with marble interiors. It will unquestionably be one of the finest and most commodious structures for library purposes in the world, with a capacity of five million books when filled up according to the plan in every direction. Full detailed plans are given in the two annual reports to congress already issued, but the following points need to be specially mentioned:

1. The engineer architect strongly urges not to use any kind of sandstone in the construction of a library building, but rather granite, or else brick with terra-cotta trimmings.

2. All the inside courts, where it is a question of radiating surface for light, are faced with a layer of light yellow enameled brick, which is admirable for the purpose, since moisture does not darken it, as is the case with stone.

3. The stacks will be constructed entirely of glass, with only enough supports to keep the walls together, and the windows will be immovable, so as to exclude dust as far as practicable, and all air carried in from the outside or from the heating apparatus will be strained through cotton before entering the storage room.

4. These stacks will be seven stories high and furnished with iron shelving of a new form devised by Mr. Green. This shelving seems perfect in every way, and is the best of any heretofore used. No paint is employed, but the iron is made rust free and permanently colored by the so-called Bower-Barff process through the use of magnetic oxide of sulphur. They will be put on the

market for sale by next spring, as soon as all the patterns are fully decided on and made.

5. The books will be carried from the stacks to the central delivery desk and back by means of an endless chain, ingeniously arranged and in constant motion.

6. All the heating apparatus and the greater part of the pipes will be in a separate building, level with the ground, in which are placed a number of boilers. From these steam pipes are carried into the basement of the building, where it is used only for heating water boilers, placed in various positions in the basement, and from there the heated water circulates throughout the building by means of an arrangement, similar to the system used in water boilers for domestic purposes. In this way there will be no pipes to get out of order on the main floors.

7. For ventilating purposes, wherever necessary, fans will be used.

8. The heating of the main circular reading room will be accomplished by carrying heated air into a chamber made of boiler iron, and about 3 feet high, which extends under the entire floor. From this chamber the air will rise through openings arranged in all the supports of the reading tables in the room.

9. The general public will have no access for sight-seeing purposes to the floor of the reading room, but will have the opportunity of looking down into the room from a second gallery, where they cannot disturb the readers.

SURGEON-GENERAL'S LIBRARY, WASHINGTON,

occupies an immense room in the new Army Medical Museum building, which when fully used will accommodate 300,000 volumes. The books are placed in stacks, two stories high with place for a third story. These stacks, however, are arranged in rows, like our own shelves with an aisle in the middle, and are

lighted by means of windows at each end, but through a faulty arrangement of these windows, the light is not sufficient. Instead of having one window for each stack, one double window serves for two stacks.

The building is made of red brick with terra-cotta trimmings, and apparently very cheap, costing about $170,000.

Of the numerous other libraries inspected in Washington, none is provided with a separate building nor embodies any special feature, with the exception of the library of the Geological survey, which has a large collection of maps, arranged in a stack of drawers, each map being backed with cloth. The index to this collection is placed in a book and every map is numbered, one hundred numbers being assigned to each independent or prominent foreign country and to each of the United States. These 100 numbers are divided into groups used respectively for different classes of maps, such as official, topographical, geological, coast lines, general private maps, special localities, etc. Maps published in sheets have the same number for the whole, but the sheets on hand are enumerated.

ENOCH PRATT FREE LIBRARY, BALTIMORE, MD.

The main library is situated in Mulberry street and occupies an ordinary city lot, with high buildings on either side. In the lower story are delivery rooms and book stacks behind, while the upper story is devoted to a reading room and librarian's offices, as well as two board rooms. The stair-case, which is very fine and finished in marble and enameled brick, both walls and ceiling, divides the delivery room into two parts, which are used indiscriminately for giving out books, but all books are returned at one place. The book stack is in two stories, with iron floor and wooden shelving. It is well lighted by windows on both sides, this part of the building being narrower than the front, so as to

form a light well on either side. Immediately above this is the reading room, similarly lighted, and back of this are the librarian's offices. The cataloging room is back of the second story stack and lighted from above. There is also a private stairway from the reading room, leading down into the stacks, so that books can be taken up from the library, for use in the reading room.

In addition to the main library there are five branch libraries in various parts of the city, all exactly alike, costing from 14,000 to 16,000 dollars, including ground, and containing something over 7,000 volumes each. All these buildings were erected by Mr. Enoch Pratt and given to the city, and he also gave the city something over a million dollars, for which the city pledged itself to pay for the maintenance of the library 50,000 dollars annually.

With 58,000 volumes in the main library and a circulation of 1,000 to 1,200 volumes a day, there are 35 attendants, exclusive of two assistants at each station, but including 8 catalogers, who do the cataloging for the whole system of libraries.

Considering the exigencies of the situation, the building is quite well planned, except that the entrance to the librarian's office is through the reading room, which must necessarily detract from the quietness of the room. It would also seem to be a defect, that there is no provision for a reference library, although the library of the Peabody institute, which is exclusively for reference purposes, is not far away. A few cyclopedias and dictionaries, however, are kept accessible to readers on shelves in front of the magazine counter.

THE PEABODY INSTITUTE LIBRARY, BALTIMORE, MD.,

is one of the most important in the country, but the building is one of the most conspicuous examples of the old arrangement,

consisting of successive stories of galleries, rising to a hight of 90 feet from the floor. The central space on the floor is used for a reading room, but the immense expanse above the tables is practically wasted. It is lighted by windows on the sides and also by a skylight. The published proceedings of the American Library Association bear ample testimony to the faultiness of this arrangement in many ways.

THE LIBRARY COMPANY OF PHILADELPHIA.

This is an old library, started by Benjamin Franklin, and occupies a building in the center of the city, to which a large addition has been made within the past two years. The book cases are placed along the walls, without alcoves, and the center of the roôms is used for tables and chairs. Each room has a gallery, with the same arrangement, and in addition to this, the new part has a second story, that will ultimately be used for books, as the space becomes exhausted below. New books are placed on shelves on the floor, where they can be examined by readers. The library is not free; in fact there is no free library in the whole city, but books may be used within the library rooms without charge.

The disadvantage of the arrangement in this library is that all the cases must be covered with wire screens and doors, and, above all, that the attendants must travel long distances frequently to get a book that is called for. This is so serious a defect, that in a free library with many books and a large circulation, it would be impossible to make use of a similar arrangement, without enormously increasing the number of attendants in proportion to the number of books distributed.

THE MERCANTILE LIBRARY OF PHILADELPHIA.

This is a large library of the subscription class. The building is old, dingy and poorly lighted. The books are arranged around

the room in alcoves with long shelves, and the whole is surrounded by a gallery, with the same arrangement. On the lower floor, a railing is placed in front of all the alcoves, while on the gallery they are open; but no one has access to this, except he is a shareholder. The librarian's office is no larger than a good-sized closet.

THE RIDGWAY BRANCH OF THE LIBRARY COMPANY

is a fine building, with an arrangement similar to the main library, and has cost nearly a million dollars, but is so far removed from the life of the city, that it is practically used only as a store room for the older and more valuable books of the library.

THE LIBRARY OF THE UNIVERSITY OF PENNSYLVANIA IN WEST PHILADELPHIA.

A new building was completed on October 1st, at a cost of 205,000 dollars, including furniture, and is a model building for the purposes, it is intended to serve, though not adapted for a public library. It is constructed of red brick with terra-cotta trimmings, and the interior of the walls is left in the natural state without finishing, except that it has a quantity of yellow sandstone pillars and arches, and an enormous fire place of the same material.

The main building consists of a lofty reading room, a part of which rises to the roof, while the other part, separated from it by a colonade, consists of three stories, the upper of which are used for a museum. Attached to this central room are, on one side, the stair-case hall, with a tower above; on the second side, which is semi-circular in form, a series of deep alcoves with shelves are to be used as seminary rooms by the different professors. On the third side are the cataloging and librarian's rooms, and a peculiarity in the construction of these, as well as the alcoves, is that they are but one story high and are all lighted by horizontal

skylights. As far as I was able to judge from a single visit on a comparatively clear day, the light in these rooms was admirable, and it would seem to be some advantage also in this arrangement on account of its absolutely shutting out all disturbing influences from outside.

The fourth side is occupied by the book shelves, placed in rows on the floor, the whole being arranged so that two additional stories for shelves can be added without changing the roof, the floors of each successive story to be made of glass. This room is separated from the rest of the library by a solid brick wall with iron doors, and painted white. There is an abundance of windows and the light streams in without any obstruction whatever. Above the present cases both walls and ceilings are practically all glass, the horizontal parts being double, the other parts slanting, so as to prevent the lodging of snow and the accumulation of heat by means of the continued beating down upon it of the sun's rays. To prevent the glare of so much light, all the inner surfaces of glass are ribbed, which admits the light without the glaring effect of the sunlight. I have never seen a better lighted book room, and doubt that the construction of even two more stories can make it less so. There is in fact now an additional story below, on a level with the basement, practically above ground, and the light in this basement is amply sufficient.

The delivery room is separated from the main room only by a counter and railing, while the cataloging room has in the same position the card catalog, consisting of tree rows of drawers, so arranged that they can be pulled either way, a peg preventing them from being entirely pulled qut by those who use them from the reading room. Above the catalog case there are curtains, which may be pulled together for a further separation if desired.

Around the reading room are placed cases for reference books to be used by the students. As regards the lighting of this room,

it is clear that, the surrounding rooms being only one story high, and low at that, there is ample opportunity for abundant light for the reading room above them.

The floor in the hall and reading room is a composition, made for the purpose by the architect, Mr. Furness of Philadelphia, and since manufactured for sale. It is very hard, but allows of a much lighter construction of the support, than ordinary stone or asphalt floors, and is very much less noisy than the latter. The cases for books, and other fittings, are of wood, stained in imitation of mahogany.

OSTERHOUT FREE LIBRARY, WILKESBARRE, PA.

This library is an old church, which has been fitted over for library purposes, at an expense of about $12,000, with great success as far as convenience of arrangement is concerned. The reference room, consisting of the old sunday school room, is remarkably pleasant and cheerful. It is well lighted, well carpeted, and well furnished, with a large fire-place, in which a fire is constantly burning, whenever the weather permits. The books in this room are placed in shelves around the walls and are open to the public for free use under the eye of the librarian.

A space running the entire length of the church has been set aside for a passage way to this room, and is also used for the catalog and supplied with tables and chairs. The rest is used for book cases and a magazine reading room.

On the second floor above the reading room are meeting rooms for the board, etc. An innovation deserving imitation is providing two wash bowls, which children coming in with dirty hands are required to use, before they can handle the books. The librarian says that a good many of them now wash their hands at once, without being asked to do so.

The light throughout the building is very good, on account

of the high windows; the artificial lighting is done entirely by electricity, and the heat is supplied by steam from a central station in the city, at a comparatively small cost.

COLUMBIA COLLEGE LIBRARY, NEW YORK.

This library, reorganized by Mr. Dewey, is chiefly remarkable for the employment of all kinds of devices for facilitating labor, such as electric call bells, speaking tubes, etc. It is in an old building poorly adapted for its purpose, and the books are arranged around the walls in two stories, with reading tables on the floor for students.

ASTOR LIBRARY, NEW YORK.

This library is arranged on an alcove plan, which, though fairly serving its purpose for a reference library, offers no suggestions of value to a circulating library.

The same may be said of the *Apprentices'* and *Mercantile* libraries of New York, which are badly housed, but the latter is now constructing a modern building, the top floor of which will be used for the library, while the lower floors will be finished into stores and office rooms.

THE FREE CIRCULATING LIBRARY OF NEW YORK,

with its three branches, is contained in buildings erected on narrow city lots, and consequently lighted only in front and behind. The lower story is used for the book room and delivery, with the books in free shelves, and the second story is a reading room and reference room. In the third story the janitor has his living rooms.

This library has for several years done its own binding, and the librarian states that they find it perfectly satisfactory and much cheaper. The binder, who receives a salary of $1,000 per year, with one helper at $10 per month, does all the binding for

the four libraries and the greater part of the repairing. He furnishes his own machinery, but the library provides all the materials, as well as room, light and heat.

The branch libraries distribute almost as many books as the main library, and require as many assistants each, but all the cataloging is done at the main library. The books in each branch vary very much in number and kind.

NEWARK, N. J., FREE PUBLIC LIBRARY.

This library is in a building, that was originally a church, but which has been entirely remodeled and so materially changed that there is hardly anything left indicating its former use.

The front part of the building is in two stories with an attic, while the back part, containing the library, reaches to the roof. The work was done by an architect, before there was a librarian appointed, and, in consequence, is badly done in several respects. The building is handsomely finished, however; the hall has marble wainscoating and massive brass trimmings for the stairway, etc.

The books are arranged in alcoves around the walls, with a second story, and the center is used for a lobby, but the catalogs are placed in a separate room of considerable size. In addition to these rooms, there is also on the lower floor a ladies' conversation and reading room, with Persian rugs, upholstered furniture, and large fire-places; and the librarian's office.

On the second floor, to which a wide fine stairway leads, is a beautiful, light and pleasant reading room, fully supplied with magazines and newspapers of all kinds. The newspapers are placed in a sliding holder, invented by the librarian, which is very convenient for the readers.

The third floor contains a large room, fairly well lighted, but which cannot be utilized for any library purpose, on account of

the thinness of the floor between it and the reading room below. In order to make some use of it, however, the library has bought $500 worth of machinery, and hired a binder and a girl for sewing. These two do all the binding for the library, and get it out a great deal quicker than when the work was done outside.

The most serious defect in the building is that there is no provision for a reference or cataloging room. They have, therefore, been obliged to make use of the second story of the alcoves for this purpose, with the result that every movement among the people below, who are in full view from above, as well as their conversation with the attendants in changing or drawing books distracts the attention from the work in hand.

In the librarian's room the windows are about seven feet above the floor, which results in insufficient light.

The library is lighted by electricity on the Edison incandescent plan, but the librarian states that the expense is very much greater than the gas, one month alone lately amounting to $300. There is an abundance of lamps, however.

PRATT INSTITUTE, BROOKLYN, N. Y.

This library, though belonging to the institute and being part of the munificent gift of Mr. Pratt, is practically a free circulating library for the city of Brooklyn. It is situated on the lower floor of the Institute building and consists of a large room, divided by the delivery desk into two parts, one for book cases, placed in rows on the floor, and the other for reading room purposes. The fixtures and appointments of the room are good.

THE BROOKLYN LIBRARY, BROOKLYN, N. Y.,

is a rather large building, erected quite a number of years ago, and from which, consequently, there is nothing to learn for a modern building. The arrangement is the conventional one for

a building, situated in a closely built street. The library itself is large and well selected, but a subscription is charged for its use. A distinctive feature is the collection of music for circulation in the same manner of books, which is worthy of imitation.

YALE UNIVERSITY LIBRARY, NEW HAVEN, CONN.

The new building has just been completed, at an expense of about $200,000. It is quite attractive in appearance, and the main entrance is handsomely ornamented with stone carvings. The most striking part of the interior is the octagonal reading room, with windows set about 12 feet from the floor and the book cases placed below all around the room. The ceiling is vaulted and being rather low, as compared with the size of the room, and with no ornaments or projections of any kind, aside from the painting, to break its monotony, it has a rather depressing effect on the visitor.

The book cases are placed in rows on the floor, immediately behind the delivery desk, and are no higher than that the top shelf can be conveniently reached. Above the delivery room, and communicating with it by a stairway, there is a second story for book cases arranged in the same way. It is calculated that these two rooms will hold 200,000 volumes, and, with admirable foresight, the end wall of the building has been arranged so as to allow of the addition of another series of rooms of the same kind by simply piercing holes for doorways, when the limit has been reached.

This is unquestionably one of the best of modern library buildings. It has ample light, except in the reading room, where it has been obscured by elaborate stained glass windows, one of which cost no less than $10,000. The provisions for extension, when needed, are good and the facilities for work satisfactory, considering the purposes of the library. The greater part

of the books are yet in the old building, some 200 feet away, with which the new building is joined by means of a temporary covered way, which will be removed when the transfer of the books is completed.

A new feature is a folding iron screen, which is attached to the opposite walls and can be extended across the room, so as to cut off the library proper from the entry, when desired, and still leave the access to the reading room free.

ROCHESTER, MASS., FREE PUBLIC LIBRARY.

This library comprises nearly 100,000 volumes, and is at present housed in an old building with insufficient accommodation. Immediately adjoining it, however, is now being erected a so-called "annex," to cost $100,000, and twice as large as the old building. This new building has large reading rooms, offices, and work rooms, and on the fourth floor large art exhibition halls and galleries. The books will be placed in a wing in several stories, separated from the main building by fire-proof walls and iron doors. This wing is practically all windows, with only enough stone work between to keep it standing, and all other parts of the structure are equally well lighted.

It is intended to use both buildings, when the new one is completed in the early part of 1891.

This library has for a number of years paid particular attention to interesting the school children of the city in its collections and work, and a main feature of the new building is therefore a room, set aside especially for the purpose of taking classes there and instructing them in the use and value of the library books.

PROVIDENCE, R. I., PUBLIC LIBRARY,

is housed in quite inconvenient quarters on the lower floor of a business building, but steps are now being taken toward the erection of a special building for its use.

has a building of its own, but it is very old, of conventional arrangement, and ultra-Greek in style.

BROWN UNIVERSITY LIBRARY, PROVIDENCE R. I.,

occupies a handsome building of red brick and sandstone. It is built in the shape of a cross of St. Andrew, consisting of a central dome, around which are grouped four deep alcoves in several stories. These alcoves are amply provided with light from the sides, while the central portion receives its light from above.

The arrangement is quite satisfactory for the university library, but there is no provision made for extension of any kind beyond the room now furnished, though that will probably be sufficient for quite a number of years.

BOSTON PUBLIC LIBRARY.

The building now being erected in Copley Square is substantially the same as described in the report of the trustees a few years ago. It was eslimated to cost $1,300,000, but this sum is now exhausted, though the roof is not wholly completed, and it will require at least half a million dollars more to finish it, according to the design.

Architecturally the building is a great success, but the interior arrangement is bad in several respects, and has been severely criticised by librarians and others, who demand that convenience for work should not be sacrificed to architectural display. The worst features are probably the scattering of the principal rooms in several stories, and building the book storage rooms in such way that artificial light must be used among the cases to a great extent from one end of the year to the other. This is particularly strange, since one of the long walls of this room is toward the street, and the other along an interior court of large dimensions.

It would seem as if on the latter wall, at least, windows might have been provided where the position of the book cases, and not the exterior decoration, demanded it. It is a significant fact, in view of the result, that the librarians of the institution were not consulted about the plans.

BOSTON ATHENÆUM.

This is a large and important library, which occupies a building of its own on Beacon street, about which nothing better can be said than that its foundations were laid several generations ago. The librarian, however, is one of the foremost men in the profession in the world, and he has succeeded in utilizing the space at his commands in such a way, as to be apparently satisfactory to the select clientage. It is essentially a library for the scholar and the man and woman of leisure.

MASSACHUSETTS STATE LIBRARY, BOSTON,

occupies at present quarters in the old state house, but excellent accommodations are being prepared for it in the new addition, now in course of erection.

Other libraries of Boston, and the suburban branches of the public library, offer nothing of interest.

NEWTON, MASS., PUBLIC LIBRARY,

has a beautiful building, with a large lawn in front, the main part of which is probably about twenty years old, but an addition has been built in recent years. Particular pains have been taken to make the rooms attractive by means of pictures and flowers, and the reference room is very inviting, with good furniture and cases of books along the walls, open to every comer.

The new part has rows of shelves on the floor and along the walls, is lighted from above and separated by a wall, surmounted

by an open arch, from the delivery room, above which it is raised several feet. The newspaper reading room, patent records and public documents rooms are in the sub-story, which is well lighted, high and dry.

The principal fault in the arrangement is that the books are quite far from the delivery desk, except fiction, which is placed immediately behind it, but part of this space consists of a gallery, which is a remnant of the old arrangement before the erection of the addition.

A large share of the library work at Newton is done by delivery to various parts of this extensive suburb of Boston.

WATERTOWN, MASS, PUBLIC LIBRARY,

about ten minutes' walk from Newton, has a new fine building, though quite small. The arrangement is similar to the one at Newton, with the addition of work rooms and museum of small proportions on the ground floor.

WOBURN PUBLIC LIBRARY, WOBURN, MASS.

This library was built by Mr. Richardson at a cost of $80,000, and is very beautiful architecturally. It is of light brown stone with darker trimmings, and is situated on a slight eminence in an open space, where it shows off to great advantage. Its main features were fully described in the New England Magazine for February, 1890, and also in Mrs. Van Rensselaer's volume on Richardson's works.

The books are arranged in alcoves lighted by narrow windows, with a gallery above each, and the shelves in these alcoves are so high from the floor, that it is impossible to reach the upper shelves without a step-ladder. This would make it utterly impracticable in a library with a large circulation, besides restricting the storage capacity to about 50,000 volumes, with no chance for

an addition to the building without marring the harmony of the exterior. No work rooms or cataloging conveniences are provided, except on the floor between the two rows of alcoves. The art gallery is lighted from above, and the museum by perpendicular windows above the cases, running along the wall.

The basement floor is used for a museum of historical collections, and the janitor has living rooms in the upper story, above the reading room.

THOMAS CRANE PUBLIC LIBRARY, QUINCY, MASS.,

is another of Mr. Richardson's creations and is generally commended as his masterpiece. It is much smaller than the Woburn library, but made on the same general plan, with the art gallery and museum left out. The faults of arrangement, common to all Richardson's buildings, are still more emphasized in this, one of his latest works.

The alcoves are provided with windows, small and narrow at that, only on one side, the lower story on the east, and the upper on the west. The result is in the highest degree unsatisfactory. There is no connection between the two sides of the upper alcoves, except by going down the stairway and up again.

One great fault in both the last buildings is further that the delivery of books is done in the reading or reference room, where the necessary confusion resulting from such an arrangement will unfailingly disturb the readers.

CAMBRIDGE, MASS., PUBLIC LIBRARY.

This is on the whole a very satisfactory building, as regards both the interior and the exterior. It has just been finished at a cost of nearly $100,000, and is the gift of a former resident of Cambridge, now living in California, who has also given to the city a fine manual training school, situated opposite the library on the

west. On the east side of the square is now being erected a magnificent high school.

The building material is stone of two colors, with rich carvings. The books are placed in a stack, which forms a wing of the building, with good light, and is capable of indefinite extension.

The only mistakes seem to be that the reference room opens into the delivery room without any division, except the filigree work overhead, which must necessarily interfere with the quiet of the room, though the appearance of the long stretch is very impressive. There is also a lack of adequate work rooms for the force. A notable feature is the long end room, devoted to a collection of the works of Cambridge authors, of which there is a large number, separate from and frequently duplicating the books in the main library.

On the upper floor there is a reading room for newspapers, and some other rooms.

HARVARD UNIVERSITY LIBRARY, CAMBRIDGE, MASS.

This library, which is one of the most important in the country, occupies a building of its own on the college campus, which, though well adapted for its peculiar field of work, nevertheless offers no features for adoption by a public library. The iron stack system, for the compact storage of its wealth of books, has formed the pattern for a large number of other buildings, and the "Harvard stack" will be found copied in many places without the slightest change. The greatest objection to the arrangement seems to be that the shelves are too close together, that is, the aisles are too narrow and the height from the floor to the ceiling is too small, all of which makes the shelves for the books in many places dark, while the perforation of the iron floors, which is designed to obviate this defect as much as possible, facilitates the dispersion of dust through the whole system, and the accumula-

tion of heat on the upper stories, to the detriment of books and bindings.

NEW YORK STATE LIBRARY, ALBANY, N. Y.

Under the management of Mr. Dewey, this library, which has a very good accumulation of books, begun a number of years ago, is rapidly coming to the front as one of the great institutions of the country. It occupies a magnificent suite of rooms in the new state house, extending through several stories. All the shelving and furniture is of solid oak, highly finished, but without heavy cornices or other similar ornaments. The height of the rooms has made necessary the construction of galleries, and every inch of space, available for a book shelf, has been utilized, the theory of the librarian being that a row of well-bound books is better than any other ornamentation of a library wall. The floors have been inlaid with pieces of oak six inches square and an inch thick, which gives the effect of parquetry, while being much cheaper and less noisy. Doors, and in many instances partitions, are made of clear plate glass, with just enough frame to hold them together, thus opening an unobstructed view through room after room, even when the doors are closed. For the same reason, door openings have been made as far as possible in a straight line. Every room, and almost every desk, in the whole establishment is connected with the librarian's desk and, through a central station, with each other, by means of electric bells and speaking tubes.

A library school, for the training of librarians and library assistants, under the direction of Mr. Dewey, is established in connection with this library and subject to the regulations of the university of the state of New York.

BUFFALO LIBRARY, BUFFALO, N. Y.

The new building for this library was finished a few years ago at a cost of something over $300,000, and furnishes also

accommodations for the Buffalo Natural History Society, Academy of Fine Arts, and Historical Society. It has been fully described in an illustrated volume by the librarian.

The style of architecture is extremely pleasing, and on the whole the interior arrangement is eminently satisfactory. The librarian has no suggestions to make for any changes, taking into consideration the exigencies of a situation on a three-cornered lot with the narrow end toward a public square, except that the reading room ought to have been larger, and better accommodations provided for cataloging and work rooms.

All the floors are covered with cortecine, a kind of linoleum of a somewhat too sombre color, which has not been disturbed since it was laid down three years ago, and is practically noiseless. It shows hardly a sign of wear, even in front of the delivery desk, where any material of ordinary texture would have been worn out long ago; but it is somewhat difficult to clean, and, owing to the dark color, all dust shows on it instantly. Sweeping it is not allowed, but merely mopping with a wet rag.

The shelving consists of gas pipe uprights with wooden shelves, and the floor between the stacks is of heavy glass.

CLEVELAND, O., PUBLIC LIBRARY

occupies the second floor of a rather large, but old building, belonging to the city board of education.

A short time ago, the experiment was made of allowing the public access to the shelves of the whole library, except fiction. Such access is more nominal than real, however, as all these cases are provided with locked glass doors. Though these doors are freely opened on request, no one can roam freely in more than one compartment in a time, thus reducing to a minimum the danger of misplacing the books on the shelves. The cases are very long and each series of two form a sort of alcove, in which

there is one attendant to have an eye on the books and charge them to the borrowers. As far as possible, each one of these alcoves is devoted to a special class of literature, of which the attendant has practically the charge and is responsible for the order of the books in this department.

The librarian reported that the system, which has some manifest advantages, has so far worked well, but could not be imitated where there are no doors to the book cases.

TOLEDO, O., PUBLIC LIBRARY.

The new building, costing $70,000, which is hardly entirely completed yet, is a handsome structure of a peculiar light-green sandstone, and is so planned that it can be extended in the direction of the book room. This book room is lighted by windows on the sides, above the cases, which are about eight feet high. These are placed in two rows on the floor immediately behind the delivery desk, and are made of gas pipe like those of the Buffalo library, but somewhat more ornamental and attached to a wooden base. A peculiarity of the arrangement is the placing of the delivery in one end of the desk toward a little room or alcove off from the main room, and using the other end for a magazine delivery toward the reading room. Even newspapers are kept in pigeon-holes within the delivery counter, and given out on request only. The communication from these rooms with the attendants is through an arched opening over the counter. The remainder of the main room, in front of the delivery counter is devoted to a large room filled with tables and large, upholstered, leather covered chairs, and intended for a general reading room, but in fact used as a lounging and conversation room.

The tinting of the walls and ceilings of the book room is a light salmon of a very pleasing color, which is graduated in intensity by imperceptible steps from below upwards.

The rooms up stairs will be devoted to lecture rooms, etc. The lighting is incandescent electricity, and the heating is done by natural gas, while the whole building is ventilated by the Smead system, which seems to be practically the same as the Rattan. The whole arrangement is said to be eminently satisfactory.

DETROIT, MICH., PUBLIC LIBRARY

occupies a very neat building in the center of an open space, but the interior arrangement is on the objectionable plan of galleries in several stories around the walls of a large central hall. The result, as usual, is inaccessibility of the books and inconvenience for the attendants. The librarian's rooms are way off in a side corridor, where the public can not reach him without difficulty.

MICHIGAN STATE UNIVERSITY LIBRARY, ANN ARBOR, MICH.

This building, erected about seven years ago, is quite peculiar in several respects. The front of the building toward the campus presents a large semi-circular wing, containing the main reading room, on either side of which wing there is an entrance. The reading room is fitted with stationary semi-circular tables, supplied with spring chairs, an arrangement that undoubtedly is very good for a class room or a legislative hall, but has its serious drawbacks when used for a reading and study room.

The book storage room is good, consisting of the Harvard stack, but set farther apart, and with the addition of a few feet above each row of cases for light and air. This is a great improvement over the original. The floors between each story are solid and consist of glass between the cases, but the longitudinal aisles have a sandstone floor, which the librarian says is ground up into an impalpable dust by the feet of the attendants.

As originally constructed, the accommodations for the librarian and the cataloging force were so ludicrously inadequate, that

he was obliged to take possession of two large, good rooms, intended for other purposes, and the result is that they are short of seminary rooms for the use of the professors. The upper floor, however, is used for an art gallery, and will probably some time be appropriated for the use of the library, when a separate building is furnished for the art collection, the greatest interest of which attaches to the marble works, plaster casts and working models of the celebrated American sculptor ~~Powers~~ Rogers.

The book room and the various rooms of the second floor are separated from the rest of the building by heavy iron doors, made like the double doors of a safe.

The material of the building is red brick of very plain workmanship. The tower in this case is really of use, as it contains the clock, after which the whole life of the university is regulated.

MICHIGAN STATE LIBRARY, LANSING, MICH.,

occupies a large room in the state capitol, running through three stories, all communicating with each other along the center of the room, so that the two upper floors are practically wide galleries, of which the first is devoted exclusively to law books. Each story has the books arranged in alcoves in two stories also, but access to these alcoves can be had only on application to the librarian, since an iron fence runs around the whole room.

The light is obtained through windows on three sides, and seems to be on the whole sufficient. The work rooms, offices, etc., are in some of the alcoves, while others have tables and chairs for readers.

HACKLEY PUBLIC LIBRARY, MUSKEGON, MICH.

This building, which was opened to the public in October, is in many respects one of the most satisfactory. It is the gift to the city of Mr. Hackley, and was erected at a cost of over $100,000. The style of architecture is very good and satisfactory, while the

interior arrangement offers only a few points to criticise unfavorably. The most serious defect is undoubtedly that there is no direct light over the delivery desk, while there is a large window, or several windows, directly opposite, so that this intense light will be staring the workers at the desk in the face all the time during the day. Other faults are that there is no cataloging room, that the librarian's office is too small and is not accessible to the public, except by going through either the reading room or reference room, and from there behind the counter.

The large room in front of the delivery counter is used for tables containing card catalogs and other helps to readers. The cases in the book room, which is arched, are placed in rows on the floor and are made of oak. The walls or partitions between the book room and the reference room on one side, and the reading room on the other, are made of clear plate glass for about four feet of height, so that the attendants at the desk have an unobstructed view of both these rooms, and are able to supervise them without the need of a separate attendant for each room.

The upper floor, to which a remarkably fine staircase leads in the tower above the main entrance, contains one immense, fine room, extending across the entire building, but for which there seems to be no use as yet.

All of the walls and ceilings are frescoed in delicate tints, the wainscoting in the hall and the main lobby is marble, and even the delivery desk is placed on a foundation of marble slabs, about six inches thick. The heating is done by means of hot water, heated in boilers immediately over the fire, and so far has proved satisfactory, economical and easily controlled.

APPENDIX II.

Index to illustrations of Library and Museum buildings in the Milwaukee Public Library.

1. GENERAL PLANS.

Delessert, B. Plan of a circular library. *In* E. EDWARDS, Memoirs of libraries, 1859, v. 2, p. 712.

Della Santa, L. Plan of a lending library. *In* E. EDWARDS, Memoirs of libr., 1859, v. 2, p. 724.

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Zoller, *Dr.* E. Plans for a public library. *In* E. EDWARDS, Memoirs of libr., 1859, v. 2, p. 720.

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Acton, Mass. Memorial library. [Exterior and plan.] Amer. arch. 25 : 306 (29 june 89).

Algiers, Africa. Library and museum. [Interior.] Amer. arch. 19 : 222 (8 may 86).

Allegheny, Pa. Carnegie library. Designs by J. L. Faxon. [Exterior, interior and plan.] Amer. arch. 21 : 150 (26 march 87).

— — Designs by W. S. Fraser. [Exterior, interiors and plan.] Amer. arch. 21 : 75 (12 feb. 87).

— — Designs by W. H. Wood. [Exterior and plans.] Amer. arch. 21 : 210 (30 april 87).

Amelia S. Givin free library, *see* **Mt. Holly Springs,** Pa.

American museum of natural history, *see* **New York.**

Ames free library, *see* **North Easton,** Mass.

Amsterdam, Holland, National museum. New building. [Exterior.] Ill. zeitung 85 : 203 (29 aug. 85).

Ann Arbor, Mich. University of Michigan library. [Front elevation, section, plan and details.] Amer. arch. 18 : 501 (1 aug. 85).

— — [Plan.] *In* Opening exercises, 12 dec. 1883.

— — [Exterior.] Libr. jour. 14 : 315 (july 89).

— — [Exterior and seminary reading room interior.] Cosmopolitan 7 : 112 (june 89).

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— — [Exterior and plan.] Libr. jour. 14 : 311 (july 89).

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Birmingham, Eng. Reference library. [Interiors.] *In* T. GREENWOOD, Free public libr., 1886, p. 64.

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Howard memorial library, *see* **New Orleans.**

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Leek, Eng. Nicholson library. [Exterior.] *In* T. GREENWOOD, Free public libr., 1886, p. 208.

Lehigh university library, *see* **South Bethlehem**, Pa.

Leipsic, Saxony. University library. [Exterior and plan.] *In* A. GRAESEL, Bibliothekslehre, 1890, p. 67.

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Lenox library, *see* **New York.**

Leyland free library, *see* **Hindley, Eng.**

Lincoln, Mass. Public library. [Exterior and plan.] Amer. arch. 15 : 126 (15 march 84).

Liverpool, Eng. Free public library and museum. [Exterior.] Ill. Lond. news 37 : 406 (27 oct. 60).

Loganian library, *see* **Philadelphia.**

London, Eng. British museum library. [Exterior and interiors.] *In* P. VILLARS, England, Scotland and Ireland, 1887, pt. 1, p. 117.

— — [Exterior and plan.] *In* A. GRAESEL, Bibliothekslehre, 1890, p. 48.

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— People's palace : Library. [Interior.] Ill. Lond. news 93 : 316 (15 sept. 88).

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— — [Principal entrance.] *In* J. COOK, England picturesque and descriptive, 1882, p. 207.

— Wandsworth free library. [Exterior.] *In* T. GREENWOOD, Free public libr., 1886, p. 238.

— Wimbledon free public library. [Exterior and plan] *In* T. GREENWOOD, Free public libr., 1886, p. 97.

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Lyon, Horatio, memorial library, *see* **Monson, Mass.**

Madison, N. J. Drew theological seminary : Library. [Exterior, section and plan.] Amer. arch 19 : 138 (20 march 86).

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Malden, Mass. Converse memorial library. [Exterior.] Amer. arch. 20 : 22 (11 sept. 86).

— — [Exterior.] *In* M. G. VAN RENSSELAER, Richardson and his works, 1888, p. 83.

— — [Exteriors, interiors and plan.] Amer. arch. 18 : 163 (3 oct. 85).

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— — — [Plan of principal floor of the old Reference library.] *In* E. EDWARDS, Memoirs of libr., 1859, v. 2, p. 906.

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Michigan university, *see* **Ann Arbor,** Mich.

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Monson, Mass. Horatio Lyon memorial library. [Exterior and plan.] Amer. arch. 13 : 174 (14 apr. 83).

Mt. Holly Springs, Pa. Amelia S. Givin free library. [Exterior.] Libr. jour. 15 : 307 (oct. 90).

Mt. Holyoke seminary, *see* **South Hadley,** Mass.

Munich, Bavaria. Royal court- and state-library. [Exterior and plans.] *In* A. GRAESEL, Bibliothekslehre, 1890, p. 37.

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— — [Plan.] Amer. arch. 18 : 521 (19 dec. 85).

Muskegon, Mich. Hackley public library. [Exterior.] Libr. jour. 14 : 125 (april 89).

— — [Exteriors, interiors and plan.] Pamphlet made up from Muskegon chronicle, 16 oct. 1890.

— — [Exterior.] Photogravure in Invitation to opening exercises, 15 oct. 1890.

Nevins memorial library, *see* **Methuen,** Mass.

Newark, Eng. Gilstrap free library. [Exterior.] Ill. Lond. news 94 : 687 (1 june 89).

Newark, N. J. Free public library. [Exteriors, interiors and plans.] *In* Program of opening exercises, 16 oct. 1889.

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Newberry library, *see* **Chicago,** Ill.

Newcastle, Eng. Public library. [Exterior.] *In* T. GREENWOOD, Free public libr., 1886, p. 86.

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New Haven, Conn. Yale university : Library. Old building. [Exteriors.] *In* Yale college, 1879, v. 1, p. 124, 184.

— — — [Interior.] *In the same,* v. 1, p. 186.

— — — New building. [Exterior.] Libr. jour. 15 : 233 (aug. 90).

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— — Law school library. [Interior.] *In the same,* v. 2, p. 98.

— — Lowell Mason library of music. *In the same,* v. 2, p. 479.

— — Sheffield scientific school library. *In the same,* v. 2, p. 111.

New Jersey, College of, *see* **Princeton,** N. J.

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— — [Interiors of reading room.] *In* H. B. ADAMS, Study of hist. in amer. colleges, p. 84. (U. S. Bureau of educ. Circulars of inform. no. 2, 1887.)

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— — — [Exterior.] *In* 9th annual report, 1888.

— — Jackson Square library. [Exterior.] *In the same.*

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— — Proposed new building. [Exterior.] Harper's weekly 34 : 348 (3 may 90).
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North Carolina, University of, *see* **Chapel Hill**, N. C.

North Easton, Mass. Ames free library. [Exterior.] Amer. arch. 13 : 307 (30 june 83).
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— — [Exteriors and plans.] *In* M. G. VAN RENSSELAER, Richardson and his works, 1888, p. 68.

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Oxford, Eng. Bodleian library. [Interior.] *In* E. EDWARDS, Memoirs of libr., 1859, v. 2, p. 670.
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— — [Plan of reading hall and desk.] Amer. arch. 16 : 294 (20 dec. 84).
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— — [Plan and exterior.] Amer. arch. 27 : 87 (8 feb. 90).
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— School of law : Library. [Plan.] Amer. arch. 16 : 303 (27 dec. 84).
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Pennsylvania, University of, *see* **Philadelphia.**
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Reckitt, James, library, see **Hull**, Eng.
Redwood library and athenæum, *see* **Newport**, R. I.
Richard Sugden library, *see* **Spencer**, Mass.
Richmond memorial library, *see* **Batavia**, N. Y.
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Salem, Mass. Public library. [Exterior, interiors, plans and details.] Opening exercises, 26 june 1889.
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San Francisco, Cal. Mercantile library. [Exterior.] *In* Annual reports.
— — [Exterior.] Harper's weekly 13 : 591 (18 sept. 69).
Savannah, Ga. Georgia historical society : Library. [Interior.] Harper's mag. 76 : 261 (jan. 88).
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Sion college, *see* **London**, Eng.
Smith college, *see* **Northampton**, Mass.
Snyder, Richard, library, *see* **Spencer**, Mass.
Somerville, Mass. Public library. [Exterior and plans.] Amer. arch. 20 : 6 (3 july 86).
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South Carolina university, *see* **Columbia**, S. C.
South Dartmouth, Mass. Southworth library. [Exterior and plan.] Libr. jour. 14 : 475 (dec. 89).

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Southworth library, *see* **South Dartmouth, Mass.**

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Vassar college, *see* **Poughkeepsie,** N. Y.

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Warder library, *see* **Springfield,** O.

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— — — *Same*, from the architect's designs. [Exterior.] Harper's weekly 34 : 460 (14 june 90).
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Watertown, Mass. Free library. [Exterior and plan.] Amer. arch. 15 : 222 (10 may 84).
Watkins institute, *see* **New York.**
Wellesley, Mass. Wellesley college : Library. [Interior.] *In* U. S. Bureau of educ. Report on public libr., 1876, p. 91.
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Westchester, Mass. Van Schaick free reading room. [Exterior and plan.] Amer. arch. 14 : 186 (20 oct. 83).
Wilmington, Del. Wilmington institute. [Exterior.] *On cover of* Reports, to 1884.
Wimbledon free public library, *see* **London.**
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Winn library, *see* **Woburn**, Mass. Public library.
Wisconsin, University of, *see* **Madison**, Wis.
Woburn, Mass. Public library. [Exteriors and interiors.] New England mag., new ser. 1 : 617 (feb. 90).
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— — [Exterior and plan.] *In* M. G. VAN RENSSELAER, Richardson and his works, 1888, p. 66, 69.
— — [Exterior.] Iconographic cyclopædia, 1888, v. 4, plate 63.
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— — — [Exterior.] *In* A. GRAESEL, Bibliothekslehre, 1890, p. 35.
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— — — [Exterior.] Ill. zeitung 86 : 35 (9 jan. 86).
Woods memorial library, *see* **Barre**, Mass.
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— — New building. [Exterior and plans.] Libr. jour. v. 15, dec. 1890, p. 112.
Yale university, *see* **New Haven**, Conn.
Zaluski library, *see* **Warsaw**, Russia.

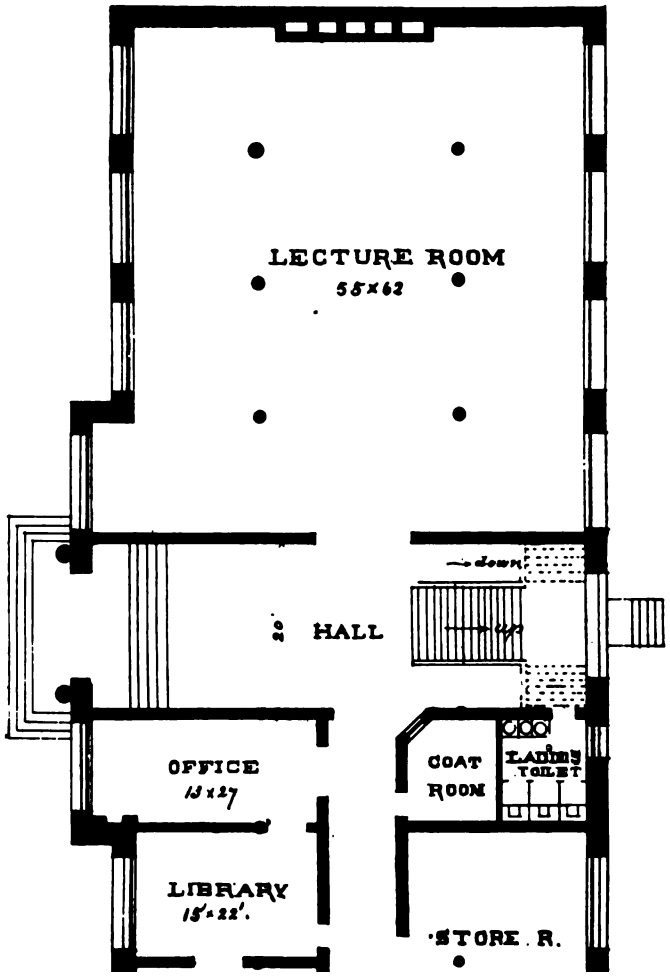
APPENDIX III.

SUGGESTIONS FOR FLOOR PLANS,

IN ACCORDANCE WITH THE RECOMMENDATIONS
IN THE REPORT.

In order to avoid all misunderstanding as to where the responsibility for these plans belongs, we wish to emphasize that they have been drawn by architect entirely according to sketches furnished by us.

A. MEINECKE.
K. A. LINDERFELT.



NORTH.

PLAN OF

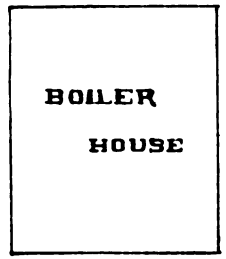
1st or Ground Floor.

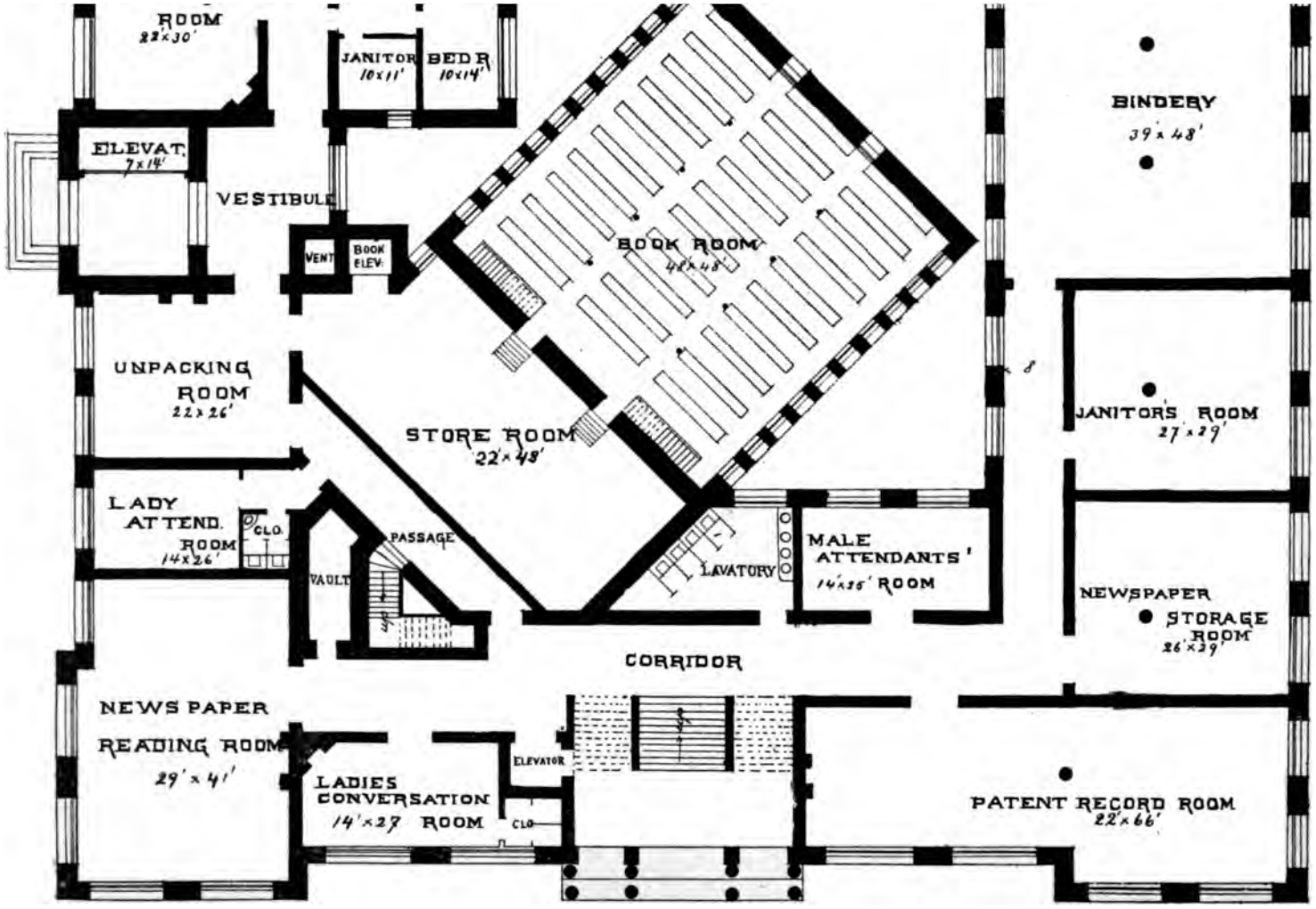
HEIGHT OF STORY 13 FEET.

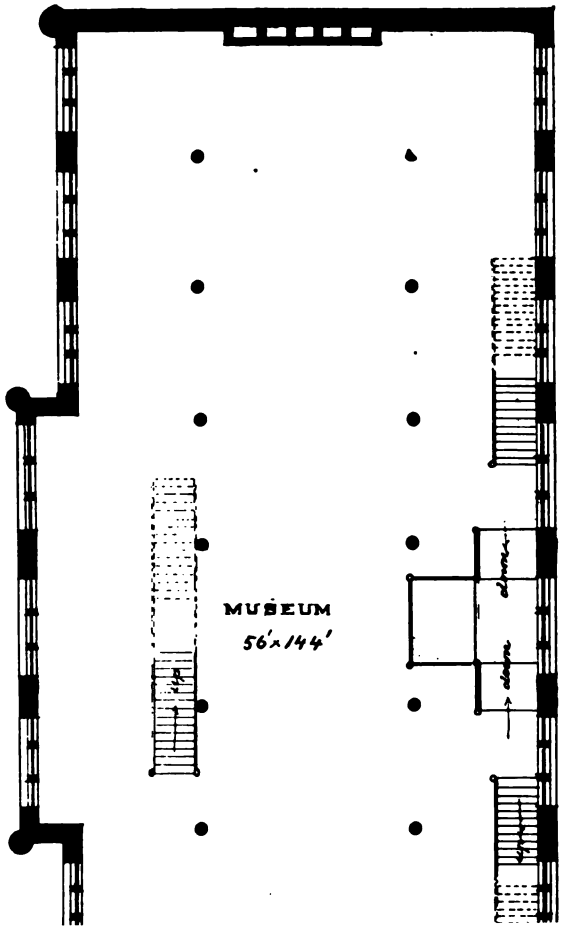
BOOK ROOM 9 FEET.

Grand Avenue on the south, Ninth Street on the west.

The east and north lines are twenty feet away from the adjoining buildings, but the east side of the boiler house is on the line of the lot. The unoccupied part of the space is intended for future extensions.




ROOM
22'x30'
JANITOR
10'x11'
BED R
10'x14'
ELEVAT.
7'x14'
VESTIBULE
VENT
BOOK ELEV.
BOOK ROOM
48'x48'
BINDERY
39'x48'
UNPACKING ROOM
22'x26'
STORE ROOM
22'x48'
JANITORS ROOM
27'x29'
LADY ATTEND. ROOM
14'x26'
CLO.
PASSAGE
VAULT
LAVATORY
MALE ATTENDANTS' ROOM
14'x35'
NEWSPAPER STORAGE ROOM
26'x29'
CORRIDOR
NEWS PAPER READING ROOM
29'x41'
ELEVATOR
LADIES CONVERSATION ROOM
14'x27'
CLO.
PATENT RECORD ROOM
22'x66'

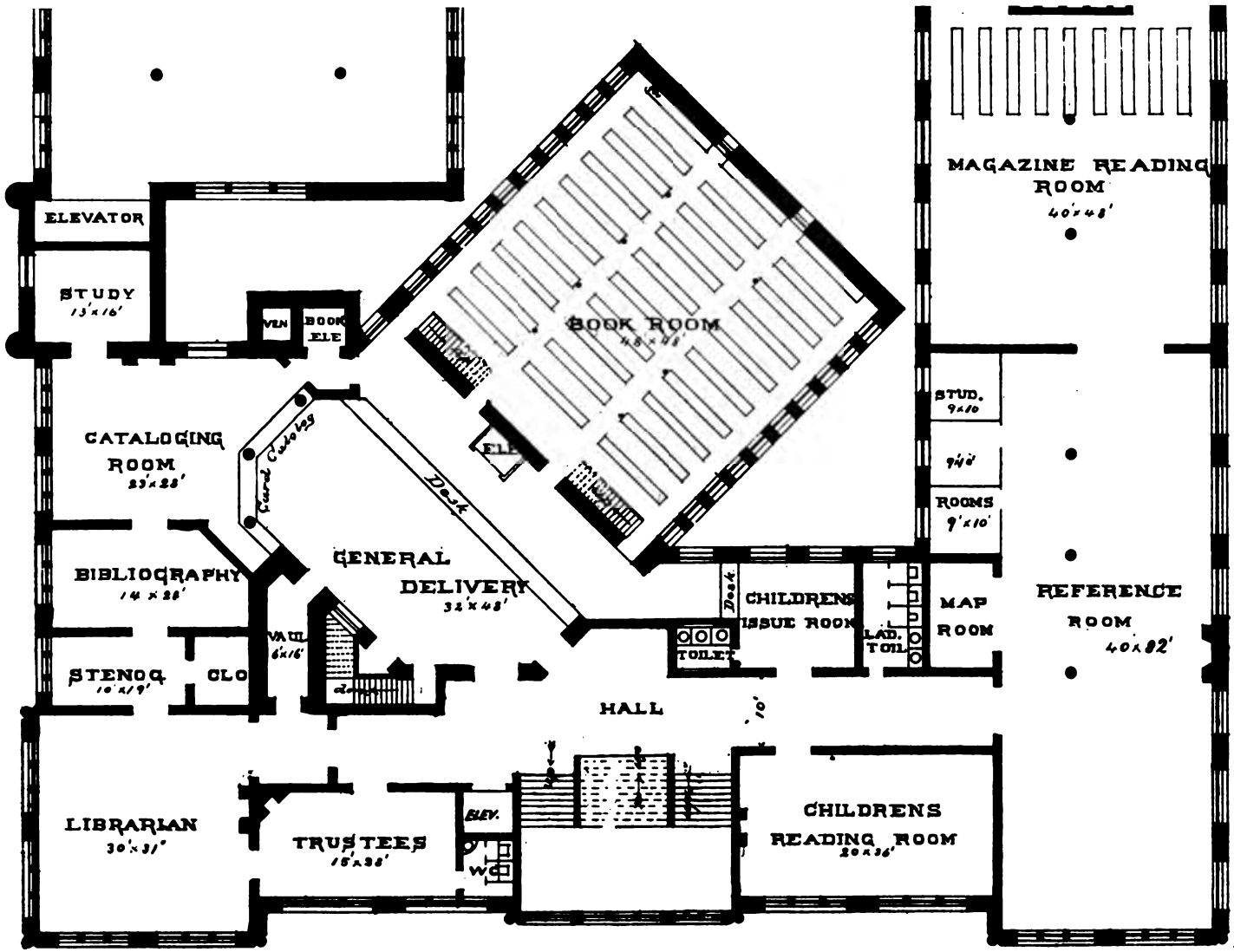


PLAN OF

2nd or Main Floor.

HEIGHT OF STORY 18 FEET.

Book Room in two stories, 9 feet each. The windows on the east side of the Reference Room are supposed to be 8 feet above the floor, so as to allow of an unbroken book-case below.


ELEVATOR
STUDY
13'x16'
VEN
BOOK ELE
BOOK ROOM
48'x48'
MAGAZINE READING ROOM
40'x48'
CATALOGING ROOM
23'x28'
Card Catalog
Desk
STUD.
9'x10'
9'x9'
ROOMS
9'x10'
BIBLIOGRAPHY
14'x28'
GENERAL DELIVERY
32'x48'
Desk
CHILDRENS ISSUE ROOM
MAP ROOM
REFERENCE ROOM
40'x82'
LAD. TOIL
TOILET
STENOG
10'x19'
CLO
VAULT
6'x16'
HALL
10'
LIBRARIAN
30'x31'
TRUSTEES
15'x38'
ELEV.
W.C.
CHILDRENS READING ROOM
20'x36'

NORTH.

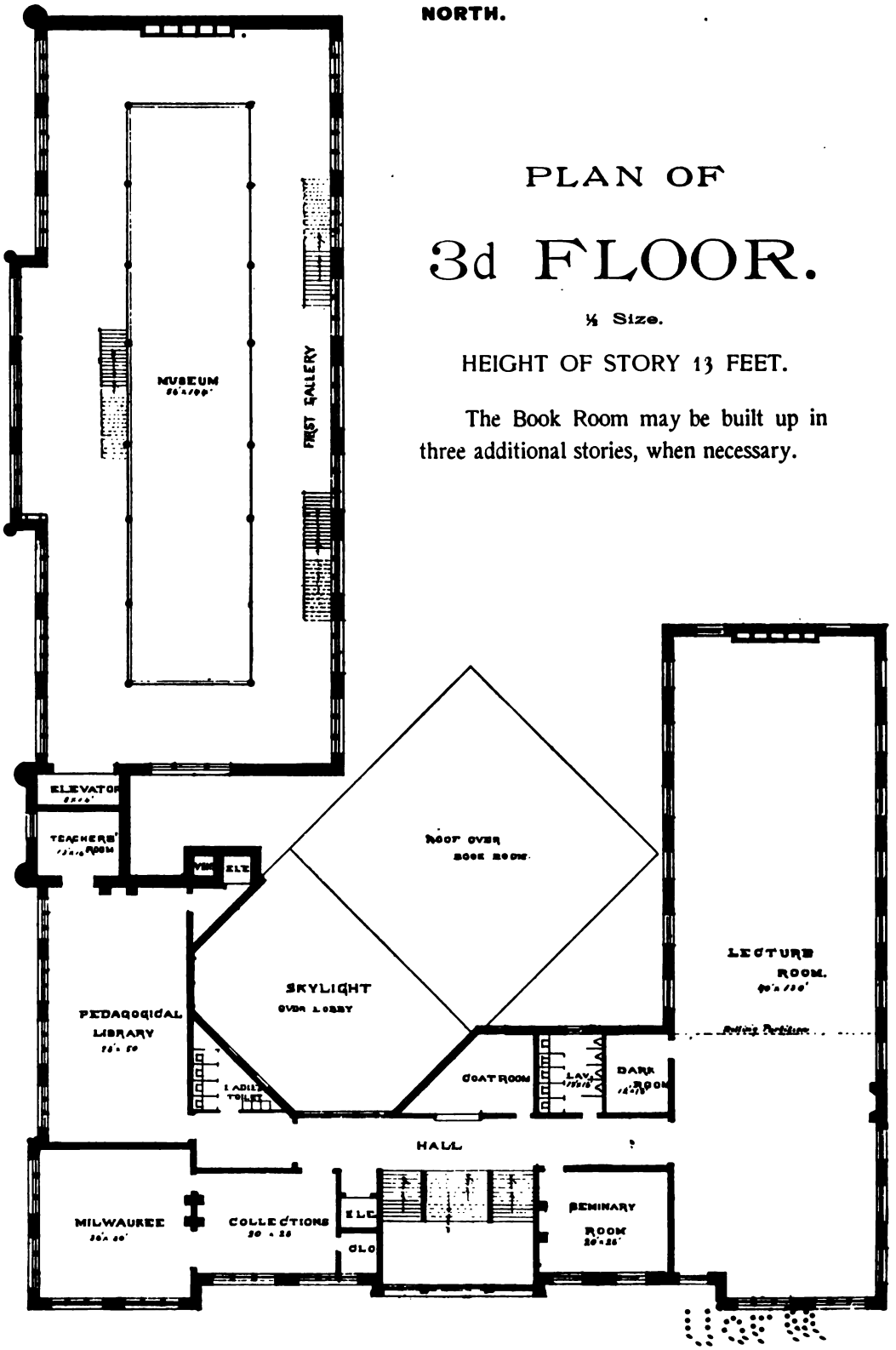
PLAN OF

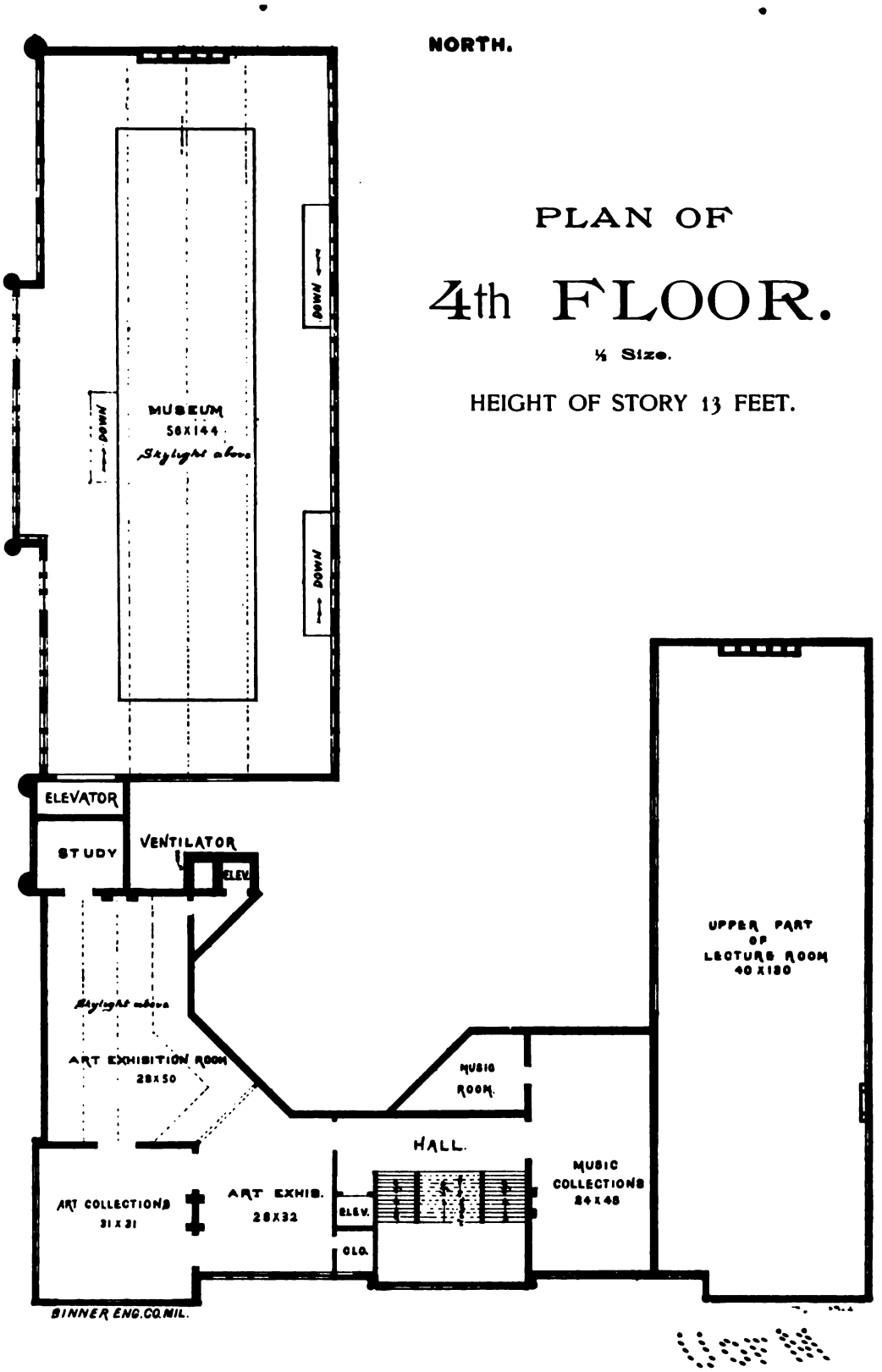
3d FLOOR.

½ Size.

HEIGHT OF STORY 13 FEET.

The Book Room may be built up in three additional stories, when necessary.




NORTH.
PLAN OF
4th FLOOR.
½ Size.
HEIGHT OF STORY 13 FEET.
DOWN
DOWN
DOWN
MUSEUM
58X144
Skylight above
ELEVATOR
STUDY
VENTILATOR
ELEV.
Skylight above
ART EXHIBITION ROOM
28X50
MUSIC
ROOM.
HALL.
ART COLLECTIONS
31X31
ART EXHIB.
28X32
ELEV.
CLO.
MUSIC
COLLECTIONS
24X48
UPPER PART
OF
LECTURE ROOM
40X120
BINNER ENG. CO. MIL.

Mau